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NOVEMBER 1951 2/6

GEOGRAPHICAL

MAGAZINE

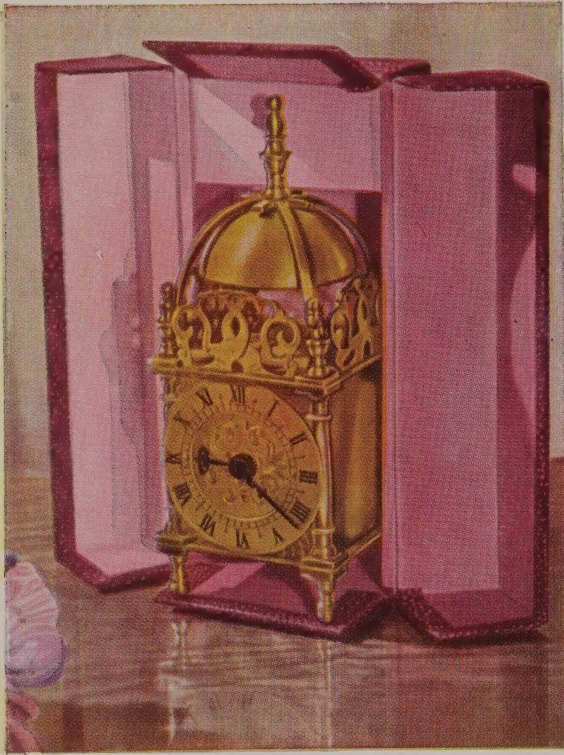


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


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The Cocos-Keeling Islands

by DR C. A. GIBSON-HILL

The Cocos-Keeling Islands, one of the smallest communities in the British Empire, have been much in the news recently on account of proposed changes in their administration and the development of a base for the air service between Australia and South Africa. Dr Gibson-Hill, who gives here a short account of their history and circumstances, worked there for ten-and-a-half months in 1941

THE Cocos-Keeling Islands lie out in the Indian Ocean, about 600 miles south-west of Java Head, and fairly close to the mid-point of a line between Perth and Colombo. The group consists of a medium-sized atoll, seven miles broad and nine miles long, and a much smaller, isolated island, fifteen miles to the north. The islands were incorporated in the British dominions in 1857.

The single island is known as North Keeling, after William Keeling, a merchant captain in the service of the East India Company, who is traditionally believed to have discovered it in 1609. It is uninhabited, and landing is hazardous except under the most favourable conditions. Its principal interest, apart from the large numbers of sea birds, is that it is the resting place of the German light-cruiser *Emden*, which was run aground on the south shore in 1914, after her defeat by H.M.A.S. *Sydney*.

The main atoll is usually known as Cocos. It is composed of a string of twenty-five flat coral islands, surrounding a pear-shaped lagoon. The majority are about a furlong in breadth, but they range in length from fifty yards to six miles. In most respects Cocos is similar in structure to the atolls which occur so plentifully throughout the greater part of the tropical Pacific and Indian Oceans. It was visited by Charles Darwin during the voyage of the *Beagle*, and is the only true coral atoll on which he ever landed.

Cocos remained without permanent inhabitants until the end of 1826, when it was settled by Alexander Hare, an English merchant-adventurer who had served Raffles's government of Java as Commissioner for Borneo. Early the following year he was joined by John Clunies-Ross, a Scottish seaman whose direct descendants still own the islands. Clunies-Ross had been employed by Hare as harbourmaster and agent at Banjarmasin during the British occupation of south Borneo. Subsequently he continued as master of one of the trading vessels owned by Hare and his brothers. Nevertheless it seems that the two men reached Cocos indepen-

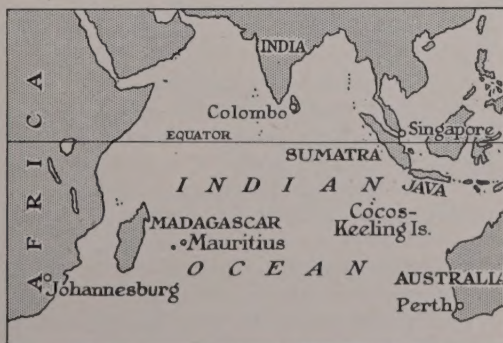
dently, and in no spirit of partnership.

The community which they established had an unusual origin. It matured in semi-seclusion, until by the beginning of this century it had developed into an entity in many ways unique. Unfortunately its economy was based on the export of copra, and with the fall in world-prices during the inter-war period it ceased to be self-supporting. Conditions on Cocos were made worse by the Japanese occupation of Singapore and Christmas Island, and when the late owner died in 1944 the British government was forced to administer the islands temporarily.

After the end of the war it was decided that opportunities should be given for the emigration of the surplus population. In 1949 and 1950 about 500 out of a post-war total of 1800 were sent to Tawau, in North Borneo. Other families are now anxious to follow them and will go as soon as shipping can be found to carry them there.

In June this year a further change was announced to the effect that the administration of the islands was to be transferred from the Government of Singapore to Australia and that the Australian Government intended to spend £A.690,000 in modernizing the airstrip, laid down in 1945 for Bomber Command but never used, as a link in the air service between Australia and South Africa. The route to be followed will be Perth, Cocos, Mauritius and Johannesburg.

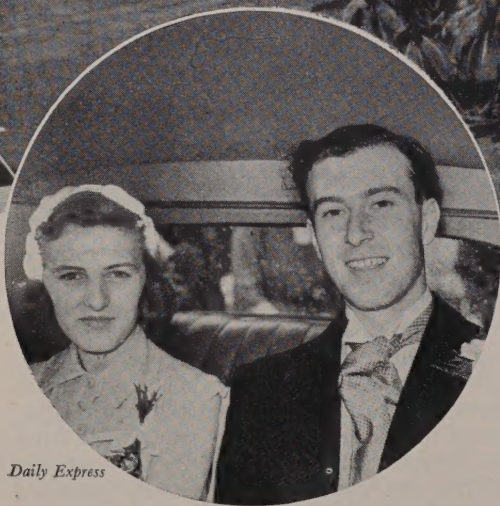
Clunies-Ross and Hare had with them in 1827 the crews of their two small trading



A. J. Thornton



All photographs, except one, by the author



Daily Express

(Above) Home Island, the main settlement in the Cocos-Keeling group, from Direction Island. In the foreground are some of the coconut trees on which the island's economy is based. In 1856 the Clunies-Ross family were granted a royal charter and hold a 999-year lease of the islands. (Left) Mr John Clunies-Ross, the fifth owner of the islands, and his bride at their wedding

vessels, and an assorted harem of Oriental women belonging to Hare. The men were mostly from Java and Sumatra. The women had been collected from the various ports in which Hare had lived during the previous twenty years. The majority were of Malay stock, but they also included Bengalese, Chinese, Siamese, Sumbawanese and Balinese, and even one or more Zulus and Papuans.

Disagreements between the two men seem to have been frequent, in spite of the fact that they had settled on different islands. One of the main points of contention was Hare's harem. Clunies-Ross, backed by an English wife and a mother-in-law, disapproved most strongly. His sailors, on the other hand, being without womenfolk of their own, were merely envious. In the end they solved the matter by stealing the women,

while Clunies-Ross, provided that the couples were willing to go through what they assumed to be a valid marriage service, refused to send them back. After about four years, Hare gave up the struggle and returned to Batavia. During the 19th century a number of coolies were imported from Bantam, in western Java, to work on the coconut plantations, and at intervals some of the bachelors sent money up to Batavia or Cheribon to buy wives for themselves.

In the course of time this mixed stock has settled to form a fairly homogeneous population. The principal deviations from the mean are in the direction of the Zulu and Chinese types, but though the former at least are conspicuous, neither are by any means plentiful.

The islanders are sturdy, and on the whole very healthy. They speak a modified version



(Above) Each neatly thatched house in the principal settlement on Home Island is the same as its neighbours. The village was entirely rebuilt about 1920. Life is secluded for the islanders, though they now have a cinema.
(Below) Two of the four circular, thatched mosques which stand in pairs at the ends of the two main 'streets'





The men of the Cocos-Keelings wear frilly organdie jackets peculiar to the islands. The original settlers were of mixed stock: the men mostly came from Java and Sumatra and the majority of the—

of the bazaar Malay current in Batavia. It can be regarded as impoverished in that they no longer have knowledge of a number of words, such as religious and philosophical terms, for which they have no immediate use. On the other hand they have formed new words, particularly in relation to sailing and introduced customs, from distortions of English or Dutch ones.

The islanders are nominally Mohammedans, but their customs show a number of modifications, mostly traceable to the influence of the Clunies-Ross family. Work stops at midday on Saturday; and Sunday, not Friday, is the non-working day. The principal festival of the year is New Year's Day, when the leaders of the *kampong*, or village, are entertained to a lunch of curried sheep. The most popular communal entertainment in the evenings is a dance in which both men and women take part equally. It is undoubtedly a much altered form of Sir Roger de Coverley, danced to distorted Scottish airs played on three old fiddles.

The men are allowed only one wife at a

time, and marriages are arranged largely by the parties concerned. Divorce, which is rarely invoked, is by mutual consent, but Clunies-Ross's approval must also be obtained to make it valid. Young men are not allowed to marry before the age of eighteen, and girls before sixteen. If it becomes inevitable that a couple should marry before the requisite age has been reached, they pay a fine, amounting to twenty-five rupees each.

The main settlement is on the island known as Pulo Selma or Home Island. In 1941, when I was on the atoll, it consisted of 243 houses, all exactly alike in size and outward appearance, standing in neat, ordered rows parallel to each other. Each was surrounded by a rectangle of fenced ground, approximately half an acre in extent. In 1944 the village was bombed by the Japanese, and some twenty-five houses destroyed, but such rebuilding as took place has not altered it materially.

The islanders live almost entirely on rice, which has to be imported as it cannot be grown on a coral atoll, and fish and coconuts



—women from Malaya, though they included even Zulus among a variety of races. Now the population is predominantly Malay in physique. The girl on the left represents the commonest facial type

which are obtained locally. In addition the majority of the families grow one or more fruit-trees round their houses, mostly papayas, bananas or limes. Some cultivate small patches of sugar-cane, and a few also keep scraggy ducks or chickens, which in general are eaten only at festivals or family parties. The great delicacy is the seabirds from North Keeling, which can only be obtained on the rare occasions when boats are going over there.

In 1941 many of the families were very poor in worldly goods. Some possessed no more than the barest household furniture, a few cooking utensils and the minimum of clothes. This was due to the absence of an exchange value for the local currency, and not to unemployment. The houses are provided and maintained by Clunies-Ross. Coconuts and fish are there for anyone to take. All males between the ages of fourteen and sixty-five, the unmarried girls, and those married women who wish to work, are employed, even if there is nothing productive for them to do.

The wages are calculated in the Cocos-

Keeling Island rupee, worth about 1s. 8d. In 1941 they ranged from twelve rupees a month to fifty rupees. These figures may seem low, but even so few families came near to spending all their income. They are paid in a token coinage, which can be redeemed only at Clunies-Ross's office, or through his store. Owing to the poor price that could be obtained for copra in the 1930s he was only able to purchase on the outside market goods sufficient to give everyone a rationed quantity of rice, a little tea, sugar and tobacco, and occasionally small amounts of cloth and fishing lines.

In some respects this widespread shortage of 'consumer goods' had produced certain admirable qualities. There was practically no stealing, except for occasional raids on Clunies-Ross's orchard. Anyone who received presents from outside, or who made an unusually large haul of fish, gave his surplus to his neighbours and friends. Not to have done so would have laid him open to the charge of being mean, the worst epithet that the islanders could apply.



Gerald H. Hones

The skyline of Manhattan: the familiar yet always astonishing introduction to the United States

The United States

I. Diversity or Unity?

by GERALD H. HONES

A Rotary Fellowship enabled Mr Hones to visit the United States and pursue geographical field studies there. Further travels afforded him the experience recorded in this and a subsequent article, in which he seeks a less superficial answer than is commonly given by Europeans to the question: What are the chief factors conducing to diversity and what to unity in American life?

AN eight a.m. mist shrouded the Hudson River as the ship nosed slowly toward Pier 60, the wharfside in New York. All the expected landmarks were either invisible, like the Manhattan skyline, or shadowy outlines in the murk, like the Statue of Liberty and the Staten Island ferry, and so it was through the noise of its traffic that the city first made its presence really known. Listening to the blare of taxi horns nearby I thought to myself: "So this is America!" Some eleven months and 13,000 American miles later, as I sailed from that same harbour, I knew I had been wrong. It was not America I could hear, it was New York City. This was a discrimination which most Americans (other than the New Yorkers, that is) hasten to underline and it was later clearly emphasized in my travels. Behind the curtain of mist lay a city of great and distinctly individual character; but no more so, I found, than the character of many regions of the United States.

Diversity was expected, but it was the complex variety of strongly contrasting regions that made the most vivid impression

on my mind. Each region displayed a unity within itself: of environment, thought, opinion, and even speech. As this concept of regional diversity became increasingly apparent during my travels, so I appreciated more clearly the manner in which differences of national origin among successive waves of immigrants are quickly reduced in importance.

Within a few days of my arrival in the States I was in camp with fifty other geography graduates practising 'field work' research techniques. Making detailed surveys of rural areas and industrial centres in western Massachusetts, I was introduced to New England at its colourful best as the foliage slowly turned to flame in the "fall"—autumn to us.

Again it was the diversity which first impressed me as the rich tobacco lands of the Connecticut valley contrasted sharply with the forest and poor glacial soils of the adjacent uplands, or the industrial power of textile mills. But gradually came the realization that here was a region in itself. The taciturn

Vermont farmer of old Yankee stock, the weatherbeaten Forest Ranger with the Scandinavian name, and the recent Polish immigrant who, stripped to the waist, poured out molten steel in the foundry, each with his widely varied beliefs and background now seemed an integral part of this New England. Yet it was not until I had travelled extensively outside the six States of the North-East that I fully appreciated the unity within them.

A lone Englishman, working that year with graduates of universities from all over the States, I was naturally subject to much advice concerning my proposed travels for the summer: "You've not seen America until you've been to California", or "Texas", or "Nebraska". It seemed impossible that I should be able to, but my luck was in and I was invited to travel by car to the Pacific Coast with Herb Halliday, a friendly Rotarian, in whose voice there was still a hint of his native Yorkshire. Thus I was able to follow Horace Greely's advice to go west as a young man and, early in the summer of 1949, I set off for Los Angeles—to see the real America.

After the bewildering kaleidoscope that is New England, the more regular pattern of the North Appalachian ridge and valley region came as a distinct change. There were the well-kept farms of the "Pennsylvania Dutch", actually of German origin, and the numerous religious sects, such as the Amish Mennonites with their strict and generally

old-fashioned rules of living. Riding in their horse-drawn open buggies (no Amish is allowed to own or even use any such modern convenience as a car, telephone or radio) the men, bearded if married, wore wide-brimmed black hats, the women, black bonnets and long gowns of dark colour. These advanced farmers in a fertile area still represent the ideals of a sect that arose during the Reformation, having settled in a State where all religions were tolerated. A distinctive, picturesque people, their rules leading to social isolation show signs of becoming relaxed as younger generations gradually accept more of the amenities of modern America.

The scene soon changed as, moving westward, we passed the gaunt angular silhouette of Pittsburgh, the steel capital of the U.S.A., where the rivers Allegheny and Monongahela join to form the Ohio. Formerly dubbed "the smoky city", since World War II Pittsburgh has resolutely enforced a strict smoke-control programme which has eliminated much of the sooty awning beneath which one-fifth of the nation's steel is produced. In this steel age, Pittsburgh epitomizes modern industrial America, where not only different metals, but different peoples, are fused together.

To balance the crude power of industry, which was to me particularly striking at night with the glare of the huge Bessemer converters casting an eerie glow in the sky, cultural and educational activities have been devel-



oped, often, as in the case of the Carnegie Institute, financed by the large industrial corporations. Dominating the Civic Centre is the forty-two-storey Cathedral of Learning, part of the University, where, in an attempt to portray the manner in which the uniting forces of industry override differences of origin, the famed "nationality classrooms" each depict the characteristics of one national heritage: for example material brought from the war-damaged House of Commons has been used in the construction of the British "classroom".

After Pittsburgh, it was not long before the industry and more intensive agriculture of the North-East gave way to the great extensive farming region of the Middle West, a region with even more indeterminate boundaries than most. Such cities as Cincinnati and Kansas City, with their modern skyscrapers, representing as they do the new urbanization of the area which is particularly advanced in its eastern sections, appeared out of place in such a rural region of essential 'middleness'. To me, the more westerly central plains will always be more typical, with the seemingly endless fields of wheat or 'corn' (maize), the isolated farm with the line of trees for a windbreak alongside wind-driven water-pumps, and the 'ribbon' settlement of the small townships. Mile upon mile of rather monotonous, gently undulating farmlands and then the high water-tower and grain-elevators in the distance herald one of the small towns of the region. There is no doubt of the unity within this region, characteristically famed for its 'middle' outlook and general isolationary tendencies, a unity seemingly created in the people by the environment. The close relation between life and the land is reflected by the major conversational topics—prospects of rainfall (seven inches in thirty-six hours of thunderstorms met us that June) or frost, changes in grain prices or Government agrarian policy. No wonder a restaurant waitress, when asked by my friend to ensure I had a large corn-cob with my meal as it would be the first I had ever tasted, thought he was ribbing! "Where does he come from, Iowa?" she flashed—but my accent soon showed I was not a visitor from the Corn Belt and made this phenomenon credible. Needless to say I was presented with two large cobs, liberally soaked in butter, in order to remedy such a big omission. Under her eagle eye I just *had* to clear the two!

Soon came Denver and our next contrast as the Prairie gave place to the grandeur of the Rockies, the high Western Cordillera.

The heat of a continental June changed to the snow of the mountain passes and later the dry 'rain-shadow' intermontane plateaux of Colorado and Utah.

We spent that night in Duchesne, Utah, in a normally arid district which had a few days previously experienced heavy rain-storms. This little rural town, with a few flashing neon signs striking an incongruous note, only boasted one hotel facing the muddy main street—as in most such towns, the only street. We ate in a little restaurant which advertised "salid—entries—sandwiches" and for the first time I saw a notice common to the West: "We reserve the right to refuse any customer!" But there was humour to balance this ominous safeguard, for on the opposite wall the management reminded patrons that "knives and forks are not medicinal and not to be taken after meals" and alongside asked: "Some pay when due—some never do—how do you do?"

Next day, with the Ford averaging an easy fifty miles an hour on the broad road, it was not long before a slight route deviation northward meant we were following the Mormon pioneering trail. No doubt Brigham Young and his followers had been impressed, as we were, with the sudden vista of the Great Basin as the road slipped down Parley's Canyon through the mountain rim. The attractively planned Salt Lake City with its tree-lined boulevards and the shimmering Salt Lake beyond, meant yet another region. Here again was a community unified through a religious belief, and again much of the original isolation has been broken down as Utah became an integral, if unique, part of the United States—unwillingly at first but, nevertheless, inevitably and relentlessly. Extremely arid land has been cleverly farmed since the pioneers reached the Basin in 1847. They developed for themselves the dry-farming technique and by skilled diversion of mountain streams created the narrow "oasis at the foot of the Wasatch Mountains" (Mark Jefferson) through which we travelled southward.

On we drove to the weirdly dissected landscape of the Colorado Plateau, awe-inspiring in its magnificence, where under arid conditions water has carved such huge amphitheatres as in the Bryce, Zion, and Grand Canyon National Parks. On the far, or southern side of the mile-deep gash in the earth's crust made by the Grand Canyon, in the Navajo country of north-east Arizona, I saw my first Indian Reservation. But the silent Navajo, displaying his distinctively woven



Camera P

(Above) Each of the six New England States has a distinct character, yet they form a unified region. In one of them, Vermont, the true Yankee doggedly farms on thin, boulder-strewn soil in the wooded uplands. (Below) A steelworks in Pittsburgh, centre of one of the United States' industrial regions

Keystone P





Camera Press

(Above) In the heart of the Great Plains is the flat, treeless farmland of Nebraska. Its fertile almost stoneless soil is well suited to mechanized farming. (Below) Nebraska farming communities are fast losing their former social isolation under the influence of the radio and the 'automobile'



Camera Press



Gerald H. Hones

Beyond the rich wheatfields are the drier grazing lands of Colorado. (Above) Burlington is representative of the small trading centres of the prairie; its wide main street presents a deceptively important 'front' for a town of under 1500 inhabitants. (Right) Minneapolis, one of the great modern cities of the Middle West. With its grain elevators, flour-mills and skyscrapers, and a population of half a million, it is the 'capital' of its region though not in fact of its State



John Gosse

blankets by the little roadside café on the edge of the desert, could hardly inspire thoughts of that great people who had once roamed the continent. What did he think of the mighty Hoover Dam a short distance westward, where man rivals Nature in creating spectacle? Or even the nearby Las Vegas, that artificially bizarre city whose huge neon signs, gambling signs, "dude ranches" and green lawns contrast so vividly with the bare emptiness of the surrounding desert?

Through the Mojave Desert, with the temperature at 110° F. in the shade, we cruised into California. Slowly the cactus and spiky Joshua Tree (named by the Mormons as herald of their expected "Promised Land") gave way to the orderly rows of orange-trees and the confused array of oil-derricks, the tranquil beauty of the old Spanish "missions" and the hum of traffic along the boulevards of Los Angeles, the murmur of the Pacific surf and the roar of aircraft engines from large airfields. Superimposed on the early Spanish influences of the West Coast, a new Cali-

fornia is growing, an example within America of the manner in which America herself was formed. A State in which are located the highest and lowest points in the country, Mt Whitney at 14,495 feet, and Death Valley 276 feet below sea level—a State in which even the average annual rainfall ranges from 2 inches to well over 100 inches—California has, in addition, received peoples from all over the world, from the Pacific and Asia as well as from Europe; and yet out of this complexity a regional unity is slowly being evolved. The Californians' exaggerated regional pride reflects the youthfulness of this process and I enjoyed their assertion that if Columbus had first discovered America coming from the west, the original settlers would have been so satisfied with California that the rest of the continent would still be undiscovered!

From Los Angeles my return journey was by bus, using a well-known service whose network covers the continent. In their ten-ton, thirty-seven-passenger, blue-and-silver buses,

In Montana, where combine-harvesters advance in echelon, the prairie merges into the high Great Plains. The rainfall is uncertain but improved farming methods lessen the risks of wheat-growing

amera Press





Camera Pro

High in the intermontane plateaux of the Western Cordillera a cowboy rides in country that could be a setting for a 'Western' film



amera Press

From the blue-grey limestone rim to the dark Archean gneiss more than a mile below, the Colorado River has created, in the Grand Canyon, the world's most spectacular example of river erosion

with the "Greyhound" insignia on the side, I travelled easily and comfortably to Atlanta, Georgia, in ten days. Along the famed Pacific Coast Highway, through La Jolla and Del Mar, past such old missions as that of San Luis Rey, I came to San Diego and the Mexican border. Here, Spanish and Mexican cultures merge to influence the pattern of the South-West. After two days crossing the deserts of Arizona and New Mexico with their veritable forests of giant cactus, the "saguaro", stretching spiky arms to the sky—deserts where water was the controlling factor of life, making agriculture entirely dependent on irrigation—it was at El Paso that the Mexican influence seemed strongest. At this point, between El Paso and the Mexican town of Ciudad Juarez, the Rio Grande commences to act as the international boundary. Here was another of the infusions which stimulate the healthy growth of a nation: another type for the melting-pot,

with a local temperature which seemed to me quite high enough to do the melting! But there remains the problem of absorbing, without undue difficulty, an old and different culture and at the same time maintaining the standards of modern America. This results in strict immigration laws and frontier control, with river patrols and lookout towers to prevent the illegal entry of Mexican seasonal labour. These "wetbacks", as they are so aptly named, endeavour to earn a wage much higher than is available in their native country, by swimming the Rio Grande to work in the Texas cotton-fields. El Paso is transitional between the old Mexico and the new United States, with its Mexican sections—and sixty-five per cent of its population are of Mexican descent—attaining standards scarcely higher than those in cities across the border. Yet it was not unusual to see a large modern refrigerator gracing a dingy 'downtown' shack!

The next four days were occupied in seeing at leisure some of that little empire, Texas—for the word "State" seems hardly to fit a region three times the area of Great Britain. Beyond the limestone countryside of the Edwards Plateau, San Antonio displayed a further blending of traditions, with hints of Colonial Spain and the new Texas. The Alamo, where in 1836, during the Texas War of Independence, 187 riflemen withstood the siege of 4000 Mexicans, remains as a shrine commemorating the birth of Texas, "the Lone Star State". In view of the pride displayed by Texans in their State, no wonder they proudly affirm that the Union joined Texas in 1845, not the reverse! It was in Houston, Galveston and Beaumont that I met the 'new' Texas, for oil is fast becoming the key to the State's economy, making the large cattle industry take second place. However, whether he be oil engineer or cattle rancher, high-heeled boots and ten-gallon hats are uniform to the Texan, reflecting the way in which this rich State is still basically

a land of farms and ranches.

From Texas eastward, slowly the scene changed to the fields of rice or sugar-cane, and the country of the Louisiana "bayous" (marshy river creeks along the coast of the Gulf of Mexico). Then came New Orleans, that most fascinating of all cities, which is both commercial outlet for the rich Mississippi valley—its fifty miles of busy waterfront serving ocean vessels 110 miles from the coast—and an old-world city of sunny *patios* with wrought-iron grille verandahs over narrow streets in the Vieux Carré. Crossing the famous wide and brilliantly lit Canal Street (so named as it follows the route of an old canal) one sultry June evening, I was able to leave the neons and drugstores of modern America and appreciate the contrasting charm of the old dimly lit French walled city—the dignified Cabildo, scene of the transfer of the Louisiana Territory from Spain to France and then to the United States in 1803—the restful solitude of Jackson Square and the bustle of the nearby market with live

Gathering wine-grapes in the mild Sonoma Valley, California. Fruit-growing is the chief industry in the "Golden State", a region of extremes in which exaggeration is routed by Nature itself

Camera F



ducks, geese and chickens. It was another sudden contrast to reach the coffee warehouses of the dockside, the glare of arc-lamps on ships' decks, the inky blackness of the Mississippi, and beyond, from the far bank, a flashing sign which announced proudly: "Over here it's Regal Beer!"

With a night-watchman quietly fishing through a hole in the wharf, the dim outline of a tanker hooting mournfully as it passed slowly upstream, the great port was strangely sleepy. Only after a three-hour sightseeing tour the following afternoon on a five-deck paddle-steamer, could I visualize its vitality, magnitude and strange qualities. Grain-storage elevators, U.S. Navy yards, cotton wharves and complicated equipment for unloading bananas—all were impressive; but the most distinctive feature of the day was the realization that the river, confined between levees wide enough to carry roadways on top, was well above the level of the surrounding land, a difference that was exaggerated from the height of the steamer's upper deck.

It was difficult to leave New Orleans and

its mixture of distinctive history and active commerce, where the lamp-posts bearing ornamental signs to commemorate successive Spanish, French, Confederate and United States administrations combine with all the interests of a busy port which is fast being acknowledged the centre of United States-Latin American trade; but travelling by the new coast-road, following the Old Spanish Trail in reverse through Mobile and Montgomery, the first capital of the Confederacy, I came to Atlanta for a stay of some weeks in Georgia.

This was Dixie—the deep, hospitable South: a region of great potential. Gradually one finds evidence here of an overdue awakening, an economic revival of recent years which promises to overcome the large material and psychological setback of the war ninety years ago. The new Dixie is noticeably developing her rich resources and in addition to the industries actually in operation, like the ultra-modern brick-making plants I saw near Macon, there were evidences of careful industrial planning for the future—for example, the projected pottery industry in

Mechanical methods are rarely used in the Cotton Belt of the Deep South. Hoeing, weeding and, later, cotton-picking are done by hand, and the Negro tenant farmer is helped by his whole family



The pillared grace and dignity of Southern mansions, whether falling into decay or cared for by incomes no longer derived from cotton, are light to the black of the dilapidated shacks of neighbouring farm-workers, who often prefer to spend their money on such things as a new car rather than the improvement of their homes



Black Star

central Georgia intending to utilize large sedimentary kaolin deposits, cheap power (either electricity, or natural gas from Louisiana) and adequate labour supplies. On the land, too, for this is still predominantly an agricultural area, I could see some influences of planning—afforested regions like those proudly pointed out to me from the bus by a State Forestry Divisional Officer, and contour ploughing by Negro smallholders to prevent soil erosion. But there is still much to be achieved and I was told by many Southerners, in that rich drawl I so enjoy, how aware they are of the problems facing them.

Of these one of the most obvious is the colour problem, involving the social structure of the whole South. On my trip, from Texas onwards, segregation had been the rule—coloured people having to sit in the rear seats of the bus, use separate “restrooms” and drinking fountains. Long before the end of my stay in the South, the grim magnitude of the whole question was made vivid and real. Through the tobacco belt of the Carolinas and

Virginia, past unpainted clapboard shacks and proud old mansions of Colonial architecture, even to Washington D.C., the Federal capital, the problem persisted. To the outside observer it is practically impossible to appreciate the roots of this complex racial problem, deep as they are; and outward appearances can be most misleading, as I learned.

While travelling through Georgia, I was amazed at the dilapidated wooden huts, often lacking large sections of wall-boarding, in which some Negro families existed, and equally surprised at the sight of a large modern car parked on the dirt road alongside. These contrasts were explained later by a kaolin mining official with whom I was making a tour of inspection. Knowing well the Negro labourer who owned one such rickety dwelling-place, he was able to quote the man’s weekly wage, one which could have enabled the family to live in comparative comfort. Instead, money was extravagantly spent—on hire-purchase instalments for the car, for instance.



Black Star

From the Washington Monument the author "gazed down on the Capitol and the regular urban pattern of the administrative heart" of a country in which national unity overrides regional differences

Such examples of apparent irresponsibility are quoted by many 'whites' as evidence that the Negro should not as yet be granted social equality—others maintain that, given equal opportunities, freedom from discrimination and improved educational facilities, the Negro people would soon prove equally good citizens. Certainly in the course of my travels I often saw 'white' Americans living under conditions that, had they been 'coloured', would have been invoked as witness to their 'social irresponsibility'. Although this is still primarily the concern of the South, the nation as a whole is being made more and more conscious of its importance since some of the large Negro population in the United States, attracted to an urban industrial life, has moved northward in recent years.

In late July as, from observation windows high in the Washington Monument, I gazed down on the Capitol, the White House and the regular urban pattern of the administrative heart of the country, I knew that I had

seen America. Within the framework of these United States, I had met several regions, characteristically different from each other. As with most attempts at regional division, it is impossible to delimit accurate boundaries, there being transitional zones in nearly every instance, yet each had its own unity to make it distinctive. Physical and human factors had welded a unit, their relative effectiveness varying naturally according to the region, one group being superimposed on the other. Whether unified by climatic control or common experiences of the people, irrespective of their origin, the result was a "region".

Here then is a regionalism which naturally tends to oppose national unity—yet that very national unity was always evident, apparently overriding marked regional differences. Each region appeared as an integral part contributing to the whole. How is this unity achieved? How indeed can any considerable degree of unity be attained in a country which embraces such diversity? These are questions which I shall try to answer in my next article.

Australia's Rabbit Problem

by F. LYONS



All photographs, except one, from Herald-Sun Feature Service, Melbourne

In "Chance and Deliberate Introductions" (July 1951) Mr Cansdale said: "The most striking examples of introduced animals becoming large-scale pests are found in Australia and New Zealand." The two following articles give a fuller idea of the problem in those countries and how it is being overcome

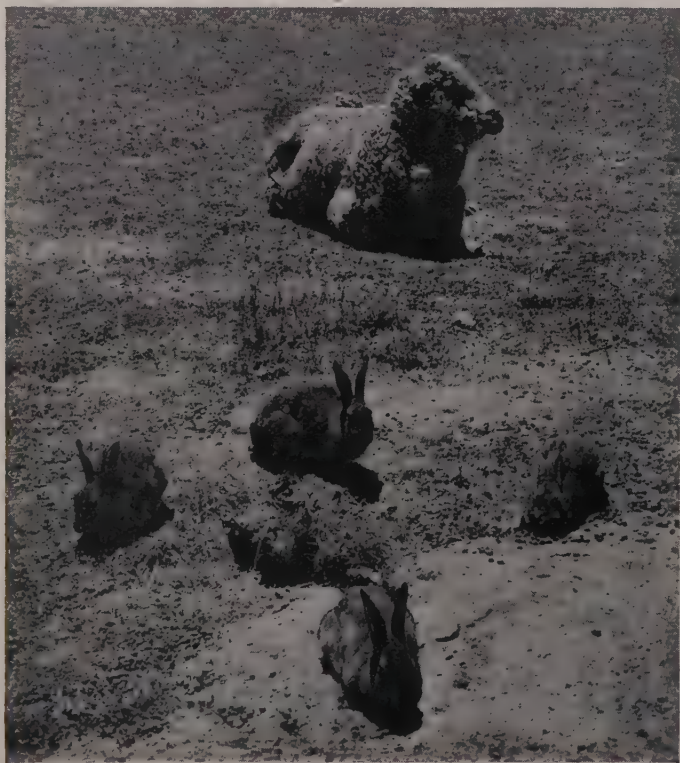
THE rabbit constitutes one of Australia's most serious and important rural problems. No-one can even guess how many there are in the Commonwealth today, but many farmers and officials believe that there are at least three times as many rabbits as sheep; and there are 115,000,000 sheep, so the rabbit population may well be 400,000,000, in spite of the constant war that is being waged against them. This enormous figure can be seen to be quite possible when it is realized that one pair of rabbits could multiply in three years to 13,718,000: the number given by Richard Lydekker in Volume III of the Royal Natural History.

The infestation is general throughout Australia and reports show that it is increasing except in some districts where it remains stationary. Australian production and economy are most seriously affected in the great areas of better-class pastoral country and in the vast wheat belt. Pastures deteriorate, watersheds and forest floors are threatened,

and there is no doubt that rabbits are the greatest single contributory factor to the ever-increasing menace of soil erosion.

Apart from the tremendous damage to fertile country rabbits do economic harm through the very high cost of labour and material that is taken up in attempting to combat the pest: labour and material that would otherwise have been productively employed.

Rabbits were first introduced into Australia in 1788 when settlers landed at Port Jackson in New South Wales, and they were brought to Victoria in 1859. In those times they were valuable: one landowner purchased twelve for £1 each. But they quickly became acclimatized and spread into the surrounding country, reaching Queensland and South Australia before long. Little or nothing was done, however, until 1880, when the first vermin suppression act was passed in Victoria which provided for attacks on rabbits and imposed penalties on landlords who failed to



(Above) Rabbits killed by motor-traffic, a common sight on the roads of Australia, whose rabbit population is estimated at 400,000,000. Although the pests are not a total financial loss (there is extensive export trading in skins and carcasses), their adverse effect more than counteracts this: as is seen (left) they have invaded the sheep pasturelands; they have opened the way for soil erosion by eating the roots of grass and by burrowing along river banks, and beneath the roots of trees in the great forests; and labour and equipment to combat them are proving very expensive



Camera Press

Australians have realized that it is impossible to exterminate the rabbit pest, and their campaign takes two forms: destruction wherever possible, and control. As an instance of the latter, the Western Australian Government erected about 1900 miles of rabbit-proof fences in an attempt to stop the spread. (Above) Locally, too, farmers have put up their own fences to guard their property. Their spectacular effect is indicated (right) where two men are setting snares: on one side the unrestricted rabbits have nibbled the area bare of grass; on the other is a healthy paddock





Australian farmers are responsible by law for destroying rabbits on their land. Often concerted action is the only effective way of combating the pest; hence the public notice for a rabbit drive

cooperate. Nowadays farmers are responsible for rabbit destruction on their own land and government aid is provided by those departments immediately concerned with the problem.

Although rabbits are fussy feeders and prefer to eat only the best grasses on good pasture-lands, careless or absentee landlords, by failing to control them on their own lands, have allowed the infestation of Crown Lands, where the rabbits are comparatively unmolested, and it is little wonder that the problem has reached its present proportions.

Rabbits are not, fortunately, a complete loss financially. In 1948-9 Victoria alone exported rabbits and hares to the value of £2,390,701 which was £120,000 more than the value of frozen beef, mutton and lamb for the same period. The figures for the whole of Australia for that year were 120,000,000 rabbits and hares exported as skins and carcasses, which returned nearly £10,000,000. But the point is that these 120,000,000 rabbits consumed at least enough fodder for 12,000,000 sheep which would have returned

£24,000,000. This does not take into account the loss of production caused by the millions of rabbits not exported, a figure that can be guessed to be in the region of £40,000,000 a year, without the cost of labour and materials—poisons, fumigants, fencing—used in rabbit-control.

Various methods of control are used. Of these the most spectacular is perhaps the government fences in the wheatlands of Western Australia where there are three main ones totalling about 1900 miles in length. The first, 1100 miles long, stretches north and south from near Hopetoun in the Great Australian Bight to a point on the north-west coast near Port Hedland. The No. 2 fence also runs north and south for 450 miles and connects with the east-west No. 3 fence, 350 miles in length, which runs from the coast to a point near Meekatharra in central Western Australia. These fences are maintained by a permanent staff in the employ of the Vermin Branch of the Department of Agriculture. In eastern Australia the fences are confined to individual holdings; by suppressing seasonal



(Above) During the drive the rabbits are herded against temporary fences where they are killed; while (below) a young girl on the drive stands by an example of the pest's most lasting legacy: soil erosion





Two more effective methods used in the destruction of rabbits. (Above) Sealing up entrances to a warren before pumping in gas. (Left) A special ripper plough going over land riddled with burrows: the pests are either killed outright by the shares, twenty-four inches deep, or suffocated in the caved-in warrens

A rabbit suffering from myxomatosis, a fatal virus disease specific to the animal. It is spread principally by mosquitoes (which bite infected rabbits and pass it on to other rabbits), and takes a heavy toll in the damp river valleys of eastern Australia



migration they are an effective form of control, and good fences are a considerable help in district rabbit drives. But the cost of erecting or replacing fences has risen and it is heartbreaking to see so much capital tied up in such a way. Nevertheless good fences are an essential part of rabbit control.

Complete extermination appears to be impossible at present and the campaign is confined to the destruction of as many of the pests as possible. This is done principally by fumigation, poisoning, trapping and digging, and of course by shooting. To these can now be added the virus disease, myxomatosis, which is the most important recent development in the war against rabbits, though it alone will not exterminate them. The virus is most effectively spread when a mosquito bites an infected rabbit and passes it on to another rabbit; but this can only happen in moist areas such as river valleys—country that formerly seemed impossible to control. It is also passed on by contact. The first symptoms appear seven or eight days after infection and the rabbit usually dies in about fifteen days. Before being deliberately spread the virus was carefully tested and found to be specific to rabbits; it cannot infect human beings or other animals.

Plans for the use of myxomatosis virus have been discussed at a recent conference attended by representatives of state Departments of Agriculture, the Commonwealth Department of Commerce, the Melbourne University, the Australian National University and the Council for Scientific and Industrial Research

Organization. The conference examined reports which show that since the first release of the virus in 1950 it has spread naturally as well as by artificial means for roughly 1000 square miles in Victoria, South Australia and New South Wales. Farmers along the Murray River estimate that it is killing up to 90 per cent of the pests on their land. The widespread distribution of the disease indicates the unsuspected mobility of the mosquitos, which, assisted by winds in the longest hops, have flown great distances.

The rabbit problem has not been dealt with effectively in the past. If rabbits are to be eradicated completely from as much as possible of Australia's productive lands and serious outbreaks are to be prevented elsewhere a full-scale national campaign will have to be organized. The C.S.I.R.O. reports that the problem can only be effectively dealt with if comprehensive and accurate scientific knowledge is obtained of the animal which Australia is trying to fight. With this knowledge and the combined aid of all States the country may find a solution to the rabbit problem.



N.Z. Internal Affairs Department

The Deer Pest in New Zealand

by J. S. HEPBURN

THE introduction of deer into New Zealand was misguided, but not accidental. When the country, isolated by thousands of miles of ocean, was settled by Europeans little more than a century ago there were virtually no domestic or wild animals. The sheep and cattle which the white man brought with him have become the source of his prosperity—the deer and the rabbit his enemies.

Deer were an immediate, almost wildfire, success in New Zealand. The main variety is the English Red Deer which appears to have considerable adaptability. In its new environment it had no natural enemies and, in addition, was strictly protected until about twenty-five years ago. Then, watching the soil on which her livelihood depends being swept steadily out to sea, New Zealand awoke

to the fact that deer are one of the major agents of erosion. From being protected they became "vermin".

In the past twenty years the Government, through its Department of Internal Affairs, has waged an intensive war against deer. Backbone of this campaign are the parties of experienced hunters who spend a large part of every year in the high forest and mountain areas.

These Government deer-stalkers, besides being men of exceptionally hardy physique, must also be expert mountaineers and bushmen, and, above all, crack rifle shots. They are paid wages and a bonus on skins. Experiments in poisoning have been made, but the rifle remains the chief weapon against deer.

Government "cullers", as they are called,



Internal Affairs Department

High above the plains the fight for the soil begins. By grazing and trampling tussock grasslands and alpine vegetation, deer destroy the natural catchment areas and accelerate erosion. On farms many miles away this may mean floods and drought (Opposite page) In the Huru-nui Valley, South Island, two Government hunters choose as their lookout a crag above a hanging basin in the tussock country. (Above) Deer among the tussock grass are seldom as good a mark for the rifle as for a camera fitted with a telescopic lens. (Right) A Government culler has the rear sight of his army rifle raised for a long shot



N.Z. Internal Affairs Department



N.Z. National Publicity Studios



N.Z. National Publicity Studios

Deer-cullers, who often spend months at a time in the back-country, are supplied by air. (Above) A Dakota aircraft is parachuting supplies to an isolated camp in the Rakaia Gorge in the eastern reaches of the Southern Alps. The country shows the severe erosion which is common in mountain areas. (Left) Loading bales of supplies. (Opposite page) A stag has fallen to a hunter's rifle in the Hurunui Valley. The New Zealand deer head has little value as a trophy. Venison is looked on as a delicacy, but the outback transport problem makes it impossible to use it for food to any great extent





N.Z. Internal Affairs Department

A pack-train bringing out a load of deer skins from a hunters' camp in North Canterbury, South Island. The pack-horse is still the only means of transport in many of New Zealand's outback areas

usually operate in the high country, leaving the more accessible areas for private hunters who are encouraged by the supply of cheap ammunition, the issue of army rifles, advice on preserving skins, and Government purchase of skins. As skins have risen in price (they now fetch about £2 each) private shooting has increased and become an important factor in control.

Although upwards of 100,000 deer have been killed in peak years, control is not yet complete. Total numbers have been considerably reduced, but there is no evidence that the range of the pest has been confined. Heaviest infestation is in the South Island.

The price New Zealand is paying for the early encouragement of deer has become clear only in the light of after-knowledge. When the main liberations were made between 1850 and 1910 the reasons seemed perfectly good. The first object was to improve the food supply of the early colonists. Then

sport and revenue from licences became important and finally deer-stalking was regarded as a promising tourist attraction. Liberations were made mainly by acclimatization societies, not by private individuals. In the early years of this century the Government itself was responsible for establishing several new herds.

The State Forestry Service was the first to become aware of the menace of deer. In cultivated forests their depredations are direct, for they feed on the foliage of the young trees. More slowly it was realized that deer are a menace to natural forests and vegetation. By their browsing they break the natural cycle of growth in the native rain forests, destroying their value as catchment areas. Similarly, by grazing on the alpine and sub-alpine vegetation in the mountain areas they considerably accelerate erosion and have caused the abandonment of high-country sheep-farming on areas which once ran valuable flocks.

The Ill-Famed Mahsuds

by IAN STEPHENS

As Editor—until last August—of the British-owned Statesman (Calcutta and Delhi), Mr Stephens was able to take equally friendly interest in the peoples of both India and Pakistan. The following study, with his own photographs, throws fresh light on a reputedly very dangerous Pathan tribe

It is difficult not to feel enthusiastic about people who, at a first meeting, unexpectedly befriend one when in trouble.

This explains in part, but now only in part, my liking for Mahsuds, whose reputation admittedly has been appalling.

The first meeting was in June 1948, when I was foot-slogging southwards out of Chitral—far from Mahsud country, incidentally. Though often on the North-West Frontier before (indeed in holidays its strange beauty draws me like a magnet) I am no Pathan expert. Work during twenty-one Indo-Pakistani years has kept me mainly in Calcutta and Delhi.

My troubles were twofold: political and abdominal. I was startlingly under notice of expulsion from Chitral; and I had dysentery. Indignation at the one—for supposedly I had entered the State under all the correct auspices—had spurred me into a journey for which the other temporarily unfitted me.

From Ziarat, the last halt in Chitral territory, to the rest-house at Dir meant a 3000-foot climb, transit of an 11,000-foot snow-pass, and then a long stony descent under the Asian midsummer sun—an all-day trudge. Even for a healthy person the journey without horses must be fatiguing.

But done it must be—or so pride insisted. For an emissary from the then Mehtar (ruling prince) of Chitral had indicated that I was unwelcome. Fighting, it was emphasized, was at that time going on between India and Pakistan in adjacent Kashmir; Chitral had acceded to Pakistan; the newspaper which I represented was published in India; and I had been observed, His Highness learned, taking photographs in the bazaars; plainly, therefore, I might be engaged in secret service work on the Indian Government's behalf.

Not until I got back, days later, to the Malakand, and asked for explanations from the Political Agent, an old friend, did the extraordinary affair dissolve absurdly into one of miscarried mail. The perplexed, remote Chitral authorities, throughout my stay, unknown to me, had lacked any official papers

explaining my presence; these only went in on muleback as I came out. The Pakistan Government, I was assured, were far from supposing the holidaying editor of a British-owned paper to be engaged in any sort of espionage, or even to be partisan.

Meanwhile however that individual, politically riled and bewildered, and intestinally most unhappy, was struggling under a June sun out of Chitral territory on a march which proved too much for him; to be surprisingly sheltered for the night, cared for and set forth restored on his journey by reputedly the most dreadful kind of Pathan—Mahsuds.

Ten days before, during my northward trip, I had noticed on Dir territory an encampment below the track; and now, on its reappearing, I announced my intention of asking hospitality. We were still seven hot dusty miles from the rest-house, and I felt near collapse.

Sidiq Khan, my companion, objected vigorously.

"In those tents are bad men, Sir—Mahsuds. The goatherd we passed told me; they're on a road-making job. You could never stay the night with such people, they're not to be trusted. No doubt they'd rob you, then slit your throat."

Brief weary wayside argument elicited from Sidiq an admission of prejudice. Ten years in my service, and before that in the Frontier Corps, a Yusufzai Pathan, he had fought Mahsuds during the Waziristan campaign of 1936-37, and seen things he did not forget.

My plight anyway had become such that visible prospect of rest and shelter mattered momentarily more than any later possible throat-slitting. Amidst Sidiq's heavy disapproval and forebodings we made for the camp—to enjoy there spontaneous kindness and good company more enchantingly memorable than any I have experienced.

After a few dubiously understood explanations the tottering, unknown, ashen-faced Englishman was invited in, allotted a tent and a good string bed, and made to sip a syrupy liquid containing seeds soothing for

dysentery, while warm water was prepared for his bath.

Later, after a sensuous exhausted rest, he was fed on breast of chicken with spiced rice and curd, wrapped in blankets, and brought forth to watch a superb display of Mahsud dancing in his honour, the most unorganized, aboundingly vital, blood-stirring of all the Pathan dance-styles, scores of strong handsome young men rhythmically circling and stamping, and twirling their black bobbed hair at a terrific pace round a seemingly crazed drummer, with great notched snow-peaks and an apple-green sunset as spectacular background. Bodily weakness etched the scene's beauty deeply on my mind.

Drowsing towards sleep afterwards in my tent, delighted by so wonderful an ending to a very bad day, I was surprised by Sidiq's reappearance, more prophetic of doom than ever.

"We'll need to move at once, Sahib, it's exactly as I told you", he announced, refraining from adding that he thought me a fool. "These people have shot an English-

man. The news has just come up the valley. I'm packing your things."

It was true. Duncan, an able and much-loved Political Officer, had been assassinated in far-off Waziristan.

I asked Sidiq to desist. Though so tragic, the news somehow affected me personally not at all. I was a guest; and I fell asleep in unquestioning confidence of safety, a participant in Pathan hospitality at its finest.

That was a good introduction to Mahsuds. And next day, before being started off refreshed on my few remaining miles to Dir, I noticed a thing half-sensed the previous evening. Mahsuds are marvellous material for portraiture.

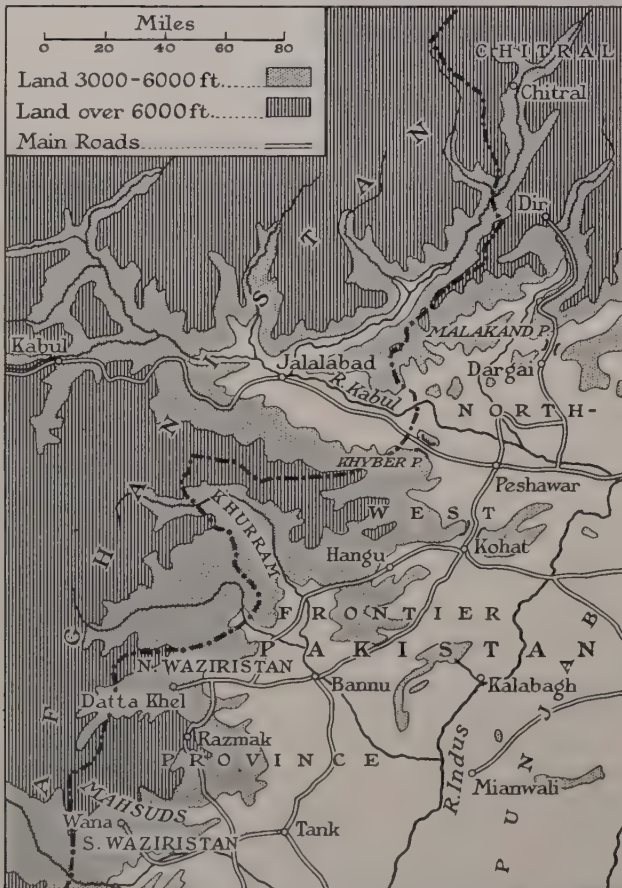
There seems scarcely a dull face among them. They are a folk of extremes. Surprisingly many have an almost dazzling beauty, breath-taking as a jewelled dagger unsheathed. But should good looks be unattainable there is a strong swing to the opposite, a diabolical ugliness being sometimes achieved, itself of lively interest.

Fine eyes, nobly chiselled noses, clean-cut

lips are factors in their beauty—if beautiful. But besides, as lure for the portrait-hunter, is a complete lack of inhibiting self-consciousness. Here are no introverts; Mahsuds' features freely reflect what they feel. Further, their superabundance of bodily spirits gives mobility of expression, and the young men's faces frame charmingly within the traditional arc of bobbed hair. For amateur photographers these people's company can be paradise.

So I verified when in their own South Waziristan hills later that year, and again during Pakistani travels in 1951. The eight studies decorating this article were done during the recent journey, and display, I think, some of the gaiety, the vitality and firm modelling, the restlessness, ruthlessness and pride which I have tried to put in words. So far as an inexpert may judge, Mahsuds embody the distinctive Pathan qualities—by no means all good—in utmost intensity.

They have singular power to draw the affection of foreigners. Not long after leaving that Dir encampment in '48 I met the young widow of the assassi-



A. J. Thornton



All photographs by the author

A Mahsud tribal elder: twinkling bonhomie, total self-assurance, shrewd appraisal



Dependable, apparently, with discernment and poise beyond his years



Uncertain as quicksilver, charming, contemptuous, watchful, amused



Whipcord athlete, lethal marksman—yet of almost feminine grace



A good friend but . . . if an enemy—hard, pitiless, utterly unyielding



Tough Greek-profiled fighting man, beautiful but stolid



Gaiety, pride, knife-keen intelligence, exuberant vitality



Kentish, East Anglian? No : a Mahsud police officer, auburn-haired

nated officer. At the moment of tragedy she had been tending Mahsud sick in the little hospital at Wana. To feel any generalized resentment against the tribe never occurred to her—and she authorized me to say so in print. An individual fanatic had shot her man; that was part of the job's risk. And she wanted to go on helping the tribal sick and wounded.

At Bannu is a British missionary doctor rendering highly qualified service, whose sympathies for years have been almost wholly Mahsud. Throughout the tribe his name is known; to mention it wherever one may meet Mahsuds—at Karachi or the Malakand, Kohat or Tanai—raises delighted grins and a flood of astonishing anecdote. At Tank live devoted Western medical ladies famous for unstinted work. Several European officers of the Frontier Corps, the Political Service and the Constabulary have been Mahsud enthusiasts, who found the wrench almost unbearable when recent changes necessitated their leaving.

An unexpected little tale of Mahsud-Hindu cordiality, culled from my latest travels, may conclude. I had with me not only the faithful Sidiq Khan—after our 1948 doings less mistrustful of the rival tribe—but what, because of Indo-Pakistani estrangements, was in these days extraordinary: an Indian employee, Ram Gopal Singh, of one of the up-country Hindu fighting castes. He had volunteered to come.

Now though the British, or other foreigners, with their passports, can usually cross the subcontinent's frontiers without trouble, for an Indian or Pakistani to do so, amidst the atrocious memories of the 1947 Partition and the perplexities and unkindness of the new-fangled permit-system, and then to plunge beyond into the unknown, can be a tremendous adventure; and Gopal had never before been west of Delhi.

But he always had pluck. Throughout, his only serious worry seemed lest he unwittingly eat beef. On our eventually reaching Peshawar



Ian Stephen

“Strong handsome young men circling and stamping, and twirling their black bobbed hair”: the momentary swaying pause between two violently contrasted movements found in all Pathan dancing

war I learned that the authorities there felt qualms about his travelling into the Khurram tribal areas. (The Khurram authorities themselves, I later found, did not.) He was disappointed at being left behind; and on our return exclaimed indignantly that he was not a woman, to be kept idling in cities.

“What about visiting some Mahsuds at Dargai with me tomorrow, Gopal? I expect to be there a night or two.”

How much idea he had of the tribe's reputation I am not sure, but he expressed eagerness, and off we set. From my experiences of '48, and friendships then formed, I was confident that the Mahsuds would show to advantage; and so it proved, as the handsomest of this article's illustrations suggest. We had dancing, lively talk and the utmost kindness in dramatically picturesque surroundings.

Afterwards Gopal remarked: “I did like those people. As a Hindu I felt a little strange at first, but they were so hospitable and friendly. Could I write them a letter of thanks, d'you think, Sir, in my Hindi script? Would they mind?” We posted it next day.



erofilms

Traces of mediaeval open-field cultivation near Crimscote, in which the hedgeless strips contrast—

The English Hedge

by D. J. DAVIS

No feature of the English countryside is so characteristic as the hedge, yet it is certainly a relative newcomer as the dominant form of land boundary. It is not on the other hand an invention of the last few centuries for in Western Europe it has long been used to bound enclosed patches of land, to exclude a neighbour's animals and to confine an owner's stock. Its most typical plant, the hawthorn (*Crataegus monogyna*), extends naturally over Western Europe, to Russia, Siberia, the Caucasus, the Himalayas and North Africa, so that it was widely available. In parts of Britain where enclosure has been the rule since they were opened up by settlers, the hedge must have been as old as settlement for

it is little more than a row of growing stakes. In most of Britain however the live hedge, as well as the stone walls or other fences that serve the same purpose, date from the many changes in farming methods that gradually spread over the land between the 16th and 19th centuries. These cleared away the wide open-fields with their strips of cultivated land and replaced them by the consolidated squarish fields of today enclosed by hedge-rows.

This revolution in farming methods, which occurred first in the Low Countries and later here and in North-West Germany, made possible the feeding of greatly increased numbers of people during the industrial expansion of



Aerofilms

—with hedged fields, the form of agriculture that became common in England in the 17th century

Europe and before the opening of colonial territories. Hitherto farming had been carried on round each village upon several extensive distinct areas of land, areas distinguished by a single crop uniformly grown by all the farmers holding land upon it. Each area in turn was fallow or bore a crop, usually an autumn or spring-sown grain. Each village then was surrounded by a great expanse of unhedged cultivated land where individual farmers were bound closely by the custom of the manor to grow under precise rules the determined crop for each section of the cultivated land. Laxton in Nottinghamshire is our only surviving open-field village today. Each man's holding consisted of a number of narrow strips a few yards wide, several hundred yards long and scattered over the whole village area. A farmer was the slave of custom, the victim of bad neighbours, an enemy of change, but he could also rely on village justice and mutual aid. With such a

farming system temporary fences sufficed and the village herdsman kept watch on the cattle.

This landscape—and we can see it over much of Germany and France today—was not wholly without enclosures. Meadows were often enclosed, as were gardens, stockpens and scraps of land that enterprising men had developed on the commons. Lords wishing to exploit their demesne more effectively would enclose it. The hedge was therefore not unfamiliar. In England for various reasons and at uneven rates the enclosing of land and the consolidation of farms into a few squarish fields continued from the late Middle Ages till the early 19th century. At one time the enclosure might facilitate profitable sheep-farming, at another oust the small man, but the main enclosures of the 18th and 19th centuries were probably necessary preludes to the new methods of farming which we group under the name of the Agricultural Revolution. To improve his husbandry the farmer



J. A. Brimble

(Above) Hedges surrounding comparatively small fields are characteristic of the English landscape today, whereas (below) in many parts of France and Germany the countryside is open and free of hedges

Commissariat Général au Tourisme, by courtesy of Paul Flek Publishers Ltd.



needed full control of his land, so as to eliminate the fallow by root and legume cultivation and to enclose his greatly increased stock on pastures that from time to time would be ploughed up. He wanted a manageable unit and a flexible one, and the field system of today was the inevitable result of this.

The enclosures made possible a new approach to stock-breeding and removed the necessity to kill off cattle each winter when fodder became scarce. The herds that till then had been tended on the stubble and on the fallow behind temporary and moveable fences were now improved and purer breeds needed segregation from inferior sorts, to be fed under control on more abundant and better foods and to be maintained fat through the winter. The old methods of temporary fencing were of little value and the permanent hedge, long known but for the most part little used, in a matter of 250 years was to cover the land with its reticulations, while in some places, where stone was plentiful and for other reasons also, stone walls were built. Many small men suffered in the process. The agricultural labourer blamed the hedge and many were transported for maliciously damaging it. This crime replaced the mediaeval one of removing the stones showing the limits of crop-strips. The choice of the living hedge was perhaps partly conditioned by the growing shortage of forest timber for fencing purposes.

Hedge-planting was accompanied by ditch-drainage which was also an important improvement of the same period. While the foot-hedge with no ditch or bank is quite common, a hedge more usually stands on the bank or next to the bank formed by digging a ditch. In law, except where deeds show otherwise, a farmer's boundary is along the outer edge of the ditch beyond the hedge owned by him. A standard ditch might be 18-36 inches deep, 24 inches wide at the top, 18 inches at the bottom; but the dimensions vary with the land and its needs. Hedges may often also be planted on stone- or grass-faced walls or in front of such walls. Though few hedges are being planted today the method is fairly standardized. The line of the hedge needs double-digging, manuring with farmyard manure and normally two rows of plants 1½-2 feet high and 8-12 inches apart. These require protection by wire from stock for the first year. It is assumed here that the hedge planted is of hawthorn, but in this country beech, hornbeam, gorse, holly, oak and a number of other plants are suitable. Ash, elder and sycamore are usually avoided and the exact ultimate constitution of the

hedge depends much on the conditions of subsoil, exposure, chalk or lack of it, peatiness and the texture of the soil. Usually other plants get into the hedge by accident and often form valuable constituents, but can hardly be considered standard.

The thorns are planted from October to March on days free of frost and not too wet. They thrive particularly well on clay though generally, except in very windy or very sandy areas, some sort of hawthorn grows all over the British Isles save the extreme north of Scotland. It is in fact almost the first woody plant to colonize all but acid peats when land is neglected. The next March the plant is cut down to 3-4 inches to encourage strong growth from the base, as a hedge with gaps is a vicious one. In the following winter it is trimmed at the sides by hook, sickle or shears and the main uprights reduced to half-length. During the next year the leaders may grow but the sides are cut hard. It is most important for a hedge to be as narrow as possible consistent with strength as it will otherwise take up too much space. An ideal is to keep the hedge in such good order that a plough can work as near to it as to a fence. Fields to be ploughed need a narrow hedge, say 3 feet across, while permanent pasture will not be much harmed by a fairly wide hedge. Hop-fields and some orchards need very high shelter-hedges, though unsuitable hedges may harm orchards by holding up cold air which would otherwise drain away to lower levels and harbouring pests harmful to fruit-trees.

The hedge has always been expensive to plant and maintain. Recent estimates suggest that a good hedge may now cost from 6s. to 10s. a yard to plant and that the more favoured strained-wire or woven-wire fences may cost up to 4s. a yard. While, however, other types of fences will last perhaps from twenty to forty years, the hedge may be considered everlasting. As against this advantage the hedge needs annual care, which can be relatively expensive. A recent estimate for a farm of 200 acres, with 450-500 chains of hedges, and a hedger employed on piece-work, suggests a cost of 5s. per chain (22 yards) a year, while the upkeep of a fence could hardly be half of this. The methods of maintaining a hedge differ from place to place and more particularly from hedger to hedger. The hedger, who is a real craftsman if he is worth employing at all, uses a bill-hook and a slasher. These vary in form from district to district and just as scythes all over Europe are made in dozens of shapes by

individual firms to suit local demands, so the bill-hook is manufactured in many styles. It is a curved blade on a 2-3 foot shaft and is used with an upward sweep to give clean cuts. A slasher, which has a straighter blade, is used for cutting thick stems. An axe and a mallet for driving stakes are useful accessories. The traditional dress necessary for hedging includes thick horse-leather gloves and knee-covers. Today many quick-cutting hedging machines are available. Like the modern cultivating and reaping machines, they are quite original inventions—complete departures from past devices—and they are useful for many types of work. They can be used for trimming, paring or breasting, as the repair of a hedge is called. This is a traditional spare-time job on the farm for late summer and early autumn, so that outlay on machines for hedging is rather an extravagance if men are available. From the standpoint of maintenance a hedge is more able to justify itself when labour is cheap and materials expensive than when labour is expensive and materials cheap.

The hedger is, however, always likely to be necessary for some fundamental operations on the older or neglected hedges. In the East, where high protective hedges are common, and in the South, the hedge must be pleached or laid periodically. In the Midlands it is sometimes cut almost to ground-level. Laying requires an instinctive careful selection of the wood that must remain in the hedge after the major part has been cut. The stems to be laid are cut half-through and are bent over at an angle of approximately 45 degrees. The cut must be clean and, to prevent rotting, it must be made in such a way that no liquid or mould can lodge in it. Stakes, preferably of oak or hazel, are driven in at right angles to these, or quite often vertically, and the laid wood is twined through the stakes. Dead stakes are preferable to live ones for live ones grow bushy at the top and give the hedges an uneven appearance. A good finish is obtained by 'hethering' or winding thorn, briar or hazel-rod along the stakes. In fact the hedge in this state resembles the best products of basketry. During the next year vigorous upward growth rises from the 'stools' below the half-cut-through wood and a new hedge results. Meanwhile the laid hedge and the strengthening stakes provide a temporary fence. The other main method, of cutting the hedge down to ground-level, can only be practised round and between crop-fields because the hedge is then no longer stock-proof.

It yields a great deal of light timber, is relatively cheap and requires less skill. The craft of hedging in all its refinements is without a doubt less practised than formerly, but a well-laid hedge is a thing of beauty and few sights are more satisfying and delightful in our countryside than a mature hedge in spring and summer or the thorny blackness of its bare winter state.

In the last twenty years hedges have frequently become thickets, for blackthorn particularly tends to spread outwards and plants with wide-spreading roots have abounded. The vine-like brambles, briars, honeysuckle and Travellers' Joy—charming and decorative to see, but defects in a hedge—have run wild. Gaps have been filled with old iron and gates neglected. A badly-maintained hedge indicates hard farming times or a shortage of labour. The hedge has thus earned a bad name among farmers and is in danger of vanishing quickly. Lovers of beauty and sentimentalists will hate to see it go; but in an age when, in the foreseeable future, we shall have to produce as much food as possible, we must not bide by the hedge if it is on all counts an agricultural nuisance. Langland and Chaucer saw beauty in an England where hedges were far less common.

We are now advised to rationalize our field-systems. Many of our fields are too small, too sinuous in outline and need a larger, rectilinear structure if the most economical use is to be made of machinery and labour. In addition much of our land needs temporary and moveable fences to achieve maximum adaptability. Where this is necessary the hedge must go, or in some instances new ones must be planted. Other accusations have been made against the hedge: that it takes up perhaps 2 per cent of the area; that it harbours vermin, noxious birds and pests; that it casts too much shade; that it hides and spreads weeds and that it hinders the drying of the land. These things are frequently repeated on hearsay in the interests of rational agriculture for crops, but the hedge none-the-less warrants a good deal of open-minded study. Treatises on husbandry say very little about it or its merits. In England, in fact, the hedge is somewhat of a familiar mystery. I know of only one recent book on the subject: *Hedges for Farm and Garden* by J. L. Beddall (Faber & Faber), though a good brief account appears in the Ministry of Agriculture and Fisheries' Leaflet No. 11 in the series "Fixed Equipment of the Farm".

In Germany some very interesting and thorough studies have been made of the value



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(Above) A well-kept hedge is an eminently practical form of fence, long-lived, strong and attractive. (Right) A neglected hedge soon becomes a tangle of briars and brambles which in time can occupy a whole field, wasting space and making the extermination of rabbits more difficult, as well as depriving crops or cattle of light and air



J. Allan Cash



C. C. H. Coape-Arnold

(Opposite page) *A well-laid hedge. Laying hedges needs great skill; once laid the hedge can be maintained in good order for many years before it has to be relaid*

In hedges which have been allowed to grow, say ten feet high, selected stems of thorn are partly cut near the ground and laid diagonally at an angle of 45 degrees. Dead stakes are used to hold the layers in position, and are bound along the top with thin thorn or briars. Stakes and binders are cut from material grown in the hedges. (Above) The thorn to be used as a layer being laid with an axe. (Right) Sharpening a stake. About five feet long, they are placed one to three feet apart



C. C. H. Coape-Arnold



C. G. H. Coape-Arnold

of hedges and these may be mentioned and related to the English scene, though in some instances perhaps the conclusions apply better to drier, sandier or windier conditions than normally obtain here. Germany is largely a country of open-fields where soil-erosion, crop pests and reduced yields have caused much anxiety of recent years; but partly, in the north and north-west, it is a land of enclosed fields behind hedges much like our own. In the hedged areas the farms produce grass and crops in rotation, are heavily stocked and healthier conditions seem to prevail. The Germans came to regard hedges as so valuable that they were put under national protection in 1936. They hoped before the war to extend hedges and a bosky landscape over wide areas. While some of their proposals seem a little strained they were based on as precise measurements as are possible in a science like agronomy where there are so many variables. Hedges represent, as it were, the last remnants of a decidu-

ous forest vegetation and typify the conditions of vegetation and climate under which the soils of North-West Europe developed. Their leaf-fall and root system would seem beneficial to the land. In addition the Germans have considered the effect of the hedge as a wind-break: as giving shelter for cattle, preventing the laying of corn and grass, reducing evaporation in dry areas and the blowing away of soil and fertilizer. It helps, they say, to retain the soil content of carbon dioxide, raises the temperature of the soil by from $\frac{1}{2}$ to 1 degree Centigrade, reduces the incidence of frost, extends the growing season and by promoting a stiller air in summer assists dew-formation—a most important factor in a dry season. Recent studies on the wetting of leaves show the significance of dew in plant life. It has been suggested that in an area in North-West Europe with a rainfall of from 600 to 700 millimetres of rain a year and a good hedge-system, with hedges spaced at 200 to 300 metres apart, the reduc-

tion of evaporation may be sufficient to make 200 to 300 millimetres more of moisture available to plants. Also snow drifts less behind hedges, is more evenly spread and melts more evenly and slowly.

The open-fields of Western Europe are the antithesis of the natural cover of mainly deciduous trees. They are a kind of steppe, growing grains as artificial grasses. The hedge introduces a natural element and therefore is hardly likely to introduce pests and vermin, for the fields already have their own pests. The pests of the hedge—animal, bird and insect—are such as like the shade of trees and shrubs. The vermin of the field are sun-lovers and live in the field while only a few take refuge in the hedge. English farmers who tolerate rabbits in their hedges can only be doing so because it is profitable and can hardly complain of their hedges. A hedgeless Britain would have a quite different, probably

reduced and more harmful bird fauna. Hedge-birds generally eat insects, vermin and some seeds. Various English investigations of the diet of birds go to show that our hedge-birds do very much more good than harm. Steppes and open-fields have few birds, and those seed-eaters. Hedges have their weeds like the violet and the anemone but these are hardly the weeds of the cornfield and grass. Yet both in Germany and England certain hedge-plants do harbour pests, especially those affecting fruit-trees whose wild types are found in the hedge. The hedge, however, seems an efficient filter of foot-and-mouth disease and fungus spores. Sugar-beet seems more disease-free behind a hedge.

German workers suggest that farm-animals benefit in health from the presence of a hedge and this may be attributed to the rich herbage near it, the protection and the hedge-leaves which in the Middle Ages were col-

The design of the implements and the methods used in laying and maintaining hedges vary in different parts of the country. Illustrated below are three bill-hooks from the Hereford Museum and a mallet (made from a natural knob of ash) and two long-handled bill-hooks from the Gloucester Museum





By courtesy of Messrs F. W. McConnell

Shortage of labour is the main cause of neglected hedges: if the annual 'brushing' is omitted the hedge soon gets out of hand. Labour can be saved by the use of mechanical cutters though they can only be employed for trimming and the hedge must be in good condition if full benefit is to be obtained from them. The photograph (above) shows a cutter trimming the top of a hedge and (right) its sides



Fox Photos

lected as fodder. A field surrounded by a hedge can usually be pastured longer than an open-field. There seems to be evidence for large—even astonishingly large—increases of crop yields behind hedges in lowland, highland and wide plain areas. These facts can be more easily studied in Germany because many farms have both hedged and open fields.

The Germans, moreover, have emphasized the additional value of hedges as productive elements in their countryside. They advocate the planting of fruit-trees and timber-trees at certain regular intervals and say that a hedge may produce nearly as much large and small timber as an equal area of forest. In fact in Germany hedges were first encouraged by the then Danish province of

Schleswig-Holstein when the forests were being withdrawn from common usage to be used by the lords, and the peasant was left without a wood-supply. In general the Germans recognize the need of a rationally placed hedge-system with not too big fields but realize that hedges have disadvantages in wet years. Societies to foster hedge-planting have long existed in Germany.

The Russians, in conditions considerably drier than those of Western Europe, are planting huge tree- and thicket-belts in the Ukraine intended to reduce blow-outs and evaporation and to increase crop-yields. They claim great success and the Germans who were there during the late war bear witness to this.

The hedge may seem to us a beautiful

A shelter-hedge in a Kentish hop-field. Hop-fields and some orchards require hedges of a special kind, which are generally very much higher than usual. Such hedges are a familiar sight in Kent





Country Life

Ornamental hedges have been an essential part of gardens for many centuries. They make a perfect setting, whether as a background to the brilliance of flowers or leading the eye to distant fields

creation, but it does not impress all people. Those who live in areas of open-fields are apt to think it very untidy and the more aesthetically-minded say it reduces the long view associated with many famous landscapes, and turns the mind to the immediate details of the foreground. Those who criticize the reserve and exclusiveness of the English are used to a more liberal access to the land and find the hedge intolerable. A hedged area is not, it is true, an open park; yet on the unfenced open-fields the growing crops equally preclude entrance. From the Englishman's own point of view the hedge keeps out his neighbour's cattle, keeps in his own, gives shelter and peace and repels the town marauder. England is now almost irrevocably divided into townsman and countryman; and the farmer must consider his hedges as a warning to the townsman to steer clear of the crops and grass and to keep to paths and roads. A farmer showing you his farm will take you round his hedges as though laying

great emphasis upon them. They are often a source of pride, delimiting the farmer's compact domain and symbolizing his release from the enslavement of the open-field, its communal bonds and its restrictions upon independence. They are indeed a sign of rural liberty.

Ingenious hedgecraft certainly attains its greatest heights in our gardens, from the humble but exquisitely-tended growths of the city suburbs to the magnificent and varied hedges of the great country houses. Here the sculptural art of topiary is perhaps as much Continental in origin as English. It is the hedging craft refined to a self-conscious art. Few can resist the charm of our loveliest gardens whose separate reaches open beyond each hedge, where the eye is led from terrace to terrace, or where hedge and flower are perfectly contrasted. Our ornamental hedges compare well with those of other countries and seem a particularly appropriate extension of those round our fields.

Coalminers' Quality

by H. DENNIS JONES

Photographs by PHILIP BOUCAS



Lady Windsor colliery at Ynysybwl, near Pontypridd

As will have been seen from his articles on Londoners (May and June, 1951) Mr Dennis Jones has a special talent for discerning the relationship between people and environment. He combines this insight in the present study with wide experience of coalminers and mining in many parts of Europe

I SUPPOSE almost everyone, if asked to say the first thing that entered their heads when they heard the words "South Wales miners" would reply: "Singing". An astonishing and apparently inborn capacity for choral singing is indeed their most striking characteristic. But even a passing acquaintance with the men of these valleys will show that it is far from being the only quality they have in common. There is a brass band, for instance, in practically every village and probably a pigeon-fanciers' club of some sort and a group of men who breed and course whippets or greyhounds, who are madly keen on gardening or amateur dramatics or some sport such as football, wrestling, or boxing. They are enthusiastic readers and, almost without exception, deeply interested in their work and the whole science of mining. Though any-

thing but lacking in humour, their essential serious-mindedness shows not only in their reading and their hobbies, but also in such things as 'chapel' and trade-union activities. Their capacity for understanding their fellow-creatures comes out not only in the literary works of the many ex-miner writers but also in less obvious ways—the care spent on training youngsters underground, for instance. That they are courageous and sturdy in character as well as physique goes without saying.

If your first acquaintance with coalminers was in the Welsh valleys it comes as a bit of a shock to find that in other British coalfields they display exactly the same characteristics and even have the same hobbies. Singing, in particular, seems inseparable from coalmining. It is not only Welsh choirs, not by any

means, who win honours at National Coal Board annual competitions. There are minor variations, of course. In parts of the Durham-Northumberland coalfield the Bedlington, "the miner's friend" as he is called, replaces the whippet, and in parts of the West Country the miners are, by ancient tradition, farmers as well. They own their herds of sheep in common.

But what is even more surprising is to find, as you travel further afield, that miners everywhere seem to be exactly like those of Britain. On my first visit to the Belgian Campine region I asked a mine official what his men did in their leisure time. "Well," he replied, "we have choirs, brass bands, orchestras, a flourishing football club, pigeon racing, dog training," (training of police dogs takes the place of breeding and coursing in most continental countries, I discovered), "competitions for the best-kept gardens, lectures on topics connected with mining, and so on. Naturally, some of the men spend most of their spare time studying for diplomas so as to get more responsible jobs." In short, but for the language and the fact that archery was the second most popular sport I might have been in Britain. And to judge by what I have seen in various other countries since then, and the accounts I have read, the same seems to be true at least throughout Europe, from Provence to Spitsbergen and Swansea to Czechoslovakia. The opera-houses of Europe, incidentally, including Covent Garden, have a sizable proportion of ex-miner singers. In most coalfields, too, except the most newly opened, you even find traces of the same age-old bitterness, an unfortunate relic of the days when the men had to fight, and fight bitterly, for every tiny improvement in their living conditions—for the very right to live as human beings, in fact.

But what is there in the hard life, the noise, dirt and never-quite-absent threat of danger to produce these characteristics? Clearly, the tradition has not grown up jointly. A small pit like the Lady Windsor in South Wales cannot in times past have had any link with, say, Durham or Forfar; even today there is little direct connection. That it is the life itself which influences the men seems to be shown by the fact that, though the Dutch mining industry began only fifty years ago, its workers are just as keen as other miners on singing and brass bands and all the rest.

It has been suggested that it is the constant noise in the pit which produces the miners' love of music. But why is the same not true of, say, foundry workers? Others have ascribed the miners' qualities and habits to

their isolation. But in the Borinage, in southern Belgium, the miners are not isolated. In Holland, too, the mines are mixed with flourishing agriculture.

My own theory is that it is mainly the combination of high technical skill and human understanding required in coal-getting that makes miners what they are. The underground worker must be adept at many trades, handling wood and metal and, often, electricity as well as coal. Since he must always work in a team, human nature, too, becomes one of his materials. The job, if it is to be done at all, must be taken seriously, studied seriously. And after being shut for hours in even the roomiest, best-lighted and best-equipped mine what is more natural than to sing and make music?

It is only in the last eighty to a hundred years that these conditions have obtained; mining before that was much more primitive. But then it seems to be less than a century since miners attained their present qualities. When Van Gogh went to the Borinage in 1877 he described the inhabitants as living, and able to live, little better than animals. Yet in the lifetime of one man, M. Achille Delattre, Mayor of Pâturages, born there while Van Gogh was living in nearby Wasmès, all that has changed. M. Delattre, in his own life, epitomizes not only the alterations that have come to the Borinage—and other mining regions as well—but also the sterling qualities of the coal-getter. Born and bred a miner, with very little schooling, he is the author of several plays and other works and editor of anthologies of miners' verse and songs. He led many a struggle for better conditions and was foremost in setting up the present miners' international organizations. Since then he has become a leading member of the Chamber of Deputies and has been Minister of Labour and Minister of Fuel and Power. But in Pâturages, as I have seen for myself, he is still "Achille", everyone's friend, looked up to even by his political opponents—which is saying a lot in a country where political feeling runs high.

While I have had the pleasure and honour of meeting M. Delattre, I have never even seen the Lady Windsor pit. For all that, I am certain that M. Delattre is as typical of the Lady Windsor men as he is of the Borin colliers among whom he was born. What a pity it is, though, that most mining districts are so separated from the rest of the world! We could learn a lot from the coalminers, not necessarily about mining, but about the whole art of living.



(Above) The first shift arrives at 7 a.m. The miners live up to six miles from the pit, but though there is a bus service many prefer to walk and breathe the new morning air before they descend (left) in the 'cage' to the dust and dark of the mine



(Above) The overman, Frederick Gaines, at the telephone, with his assistants in the control-room, the mine's nerve-centre. (Right) The electrician, on whom depends the lighting, ventilation, and perfect running-order of the underground trains





(Left) Traffic-man James Evans, pushing the truck, has worked for fifty-two of his sixty-four years at the Lady Windsor Colliery and as far as he knows all his forefathers have been miners, too. Formerly he was at the coal-face, but a broken arm has brought him his present job

(Right) Following forty-five years in the pit Gwelyn Moses was appointed training-officer. He is in charge of all the young lads upon whom the future of the mine depends, and whom it is becoming more than ever important to attract to the job. He is drawing a diagram of the mine's coal-seams





It is eerie near the 'front line', where props are erected to support the coal ceiling, often so low as to permit only a crouch: no main electricity is allowed, and through the dust the damp, black walls gleam in the ray of a dry-battery lamp



Before going home the dust-caked miners take a quick smoke, and then a shower in the baths established at the pithead. Under their arms they carry mess-tins, which must be proof against the dust at the coalface where they have their lunch

(Right) *The seven-and-a-half hour shift is over and the men return to the surface. Trade union officials are waiting to hand each miner a ballot-card for a local election before he takes the bus home, to supper and the evening's amusements. It is strange that their spare-time activities—choral singing, brass-band work, amateur dramatics, greyhound breeding and many sports—are common to miners all over the world.* (Below) *After-supper ritual: a drink and a game of dominoes with friends at the pub. It is a cementing of the comradeship, for which miners are famous, that stems from their hazardous life at the coalface*





An old-timer's evening. After his long day's work training-officer Moses' favourite relaxation is a quiet chat with the 'missus' by the parlour fire. He says he has not let his wife go down the mine to see what it is like because if she saw how he earns his money she would hate to spend a penny of it